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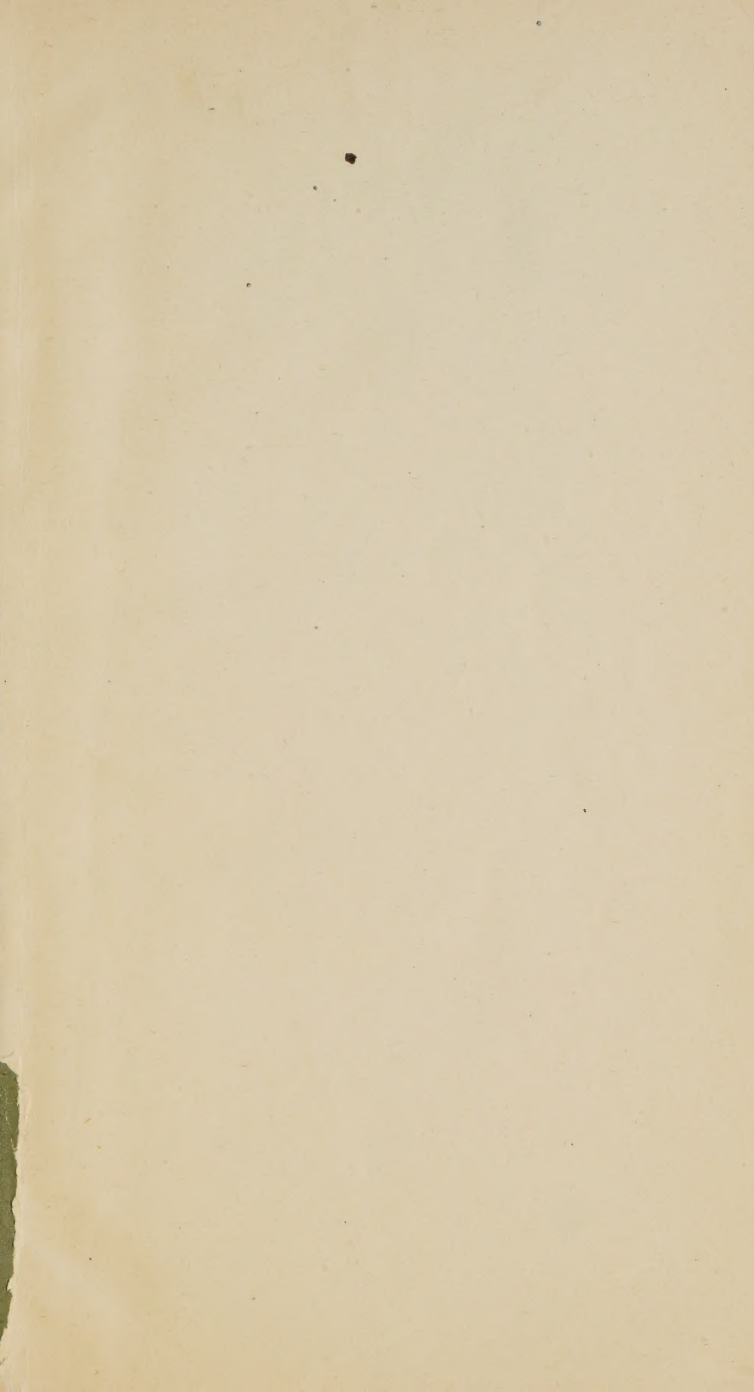
Canada. Agriculture, Sept. 57




AGRICULTURE IN CANADA

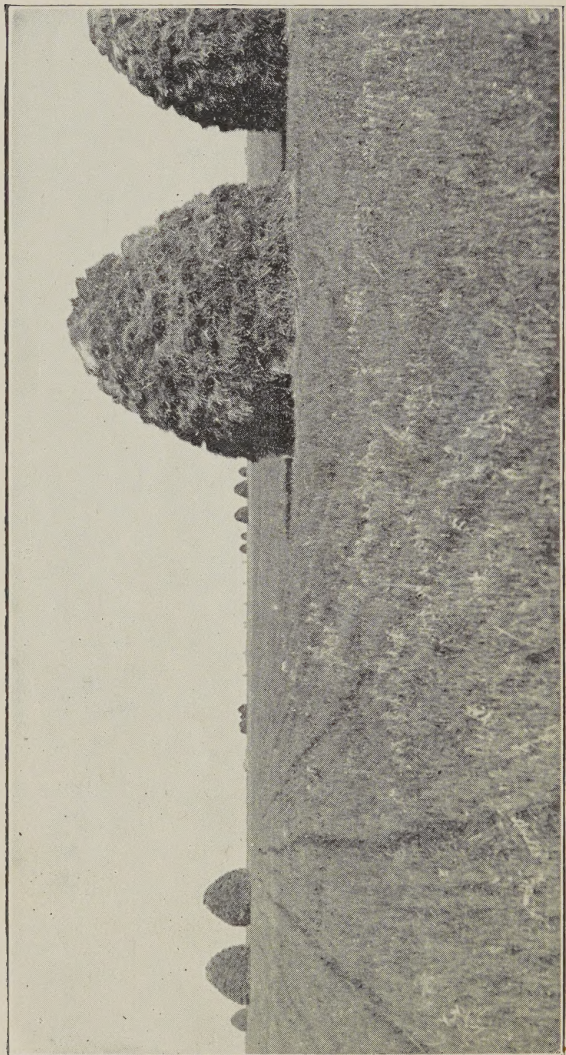


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WHEAT IN STACKS, NEAR WINKLER, MAN.

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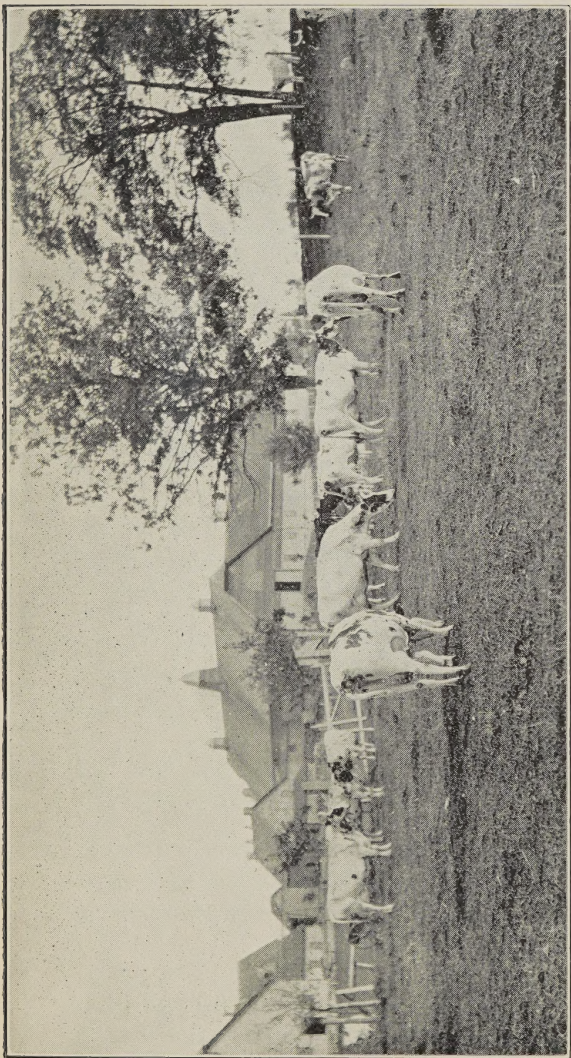
WM. SAUNDERS, LL.D.

DIRECTOR OF EXPERIMENTAL FARMS

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MINISTER OF AGRICULTURE FOR CANADA



AYRSHIRE COWS, AT STE. ANNE DE BELLEVUE, P.Q.

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CURING ROOM IN CHEESE FACTORY. ONT.

AGRICULTURE IN CANADA

BY

WM. SAUNDERS, LL.D.

DIRECTOR OF EXPERIMENTAL FARMS

Agriculture in Canada overshadows all other industries in its magnitude and importance, and whatever affects the farmer favourably or adversely, re-acts in like manner on other branches of industry. About 46% of the entire population make their living directly from the products of the soil. Hence all questions which influence the prosperity of agriculture are of great interest to the Canadian people.

In the pursuit of agriculture the degree of success achieved depends largely on favourable conditions.

Soil.

A fertile soil is a point of the greatest importance, and in this respect Canada is very much favoured, having vast areas of rich land, easily worked, bountifully supplied with plant food, and well suited for the growth of cereals, fodder plants, and other important farm crops for the feeding of man and animals.

Climate.

Climate also is an important factor in connection with successful agriculture, and in this particular the Dominion is also fortunate. The climate is wonderfully varied in different parts, thus permitting of the growth of a large variety of farm products and fruits. The great water system of lakes and rivers affects favourably the climate of the older provinces and permits of the success-

ful maturing of the finest products, and, at the same time, affords facilities for their cheap transportation. The climates of the western part of Canada, although they vary much in character in different districts, are, in the main, favourable to the growing of wheat and other cereals of high quality, while abundant pasturage is favourable to the raising of large quantities of cattle, horses and sheep. On the Pacific coast there are exceptional advantages for stock raising and the growing of fruit and hops.

Altitude.

Altitude also has an important bearing on agriculture, and in this respect the Dominion has advantages when compared with many other countries. While Europe is said to have a mean elevation of 671 feet above sea level, and North America 748 feet, that part of North America occupied by Canada is placed at 300 feet.

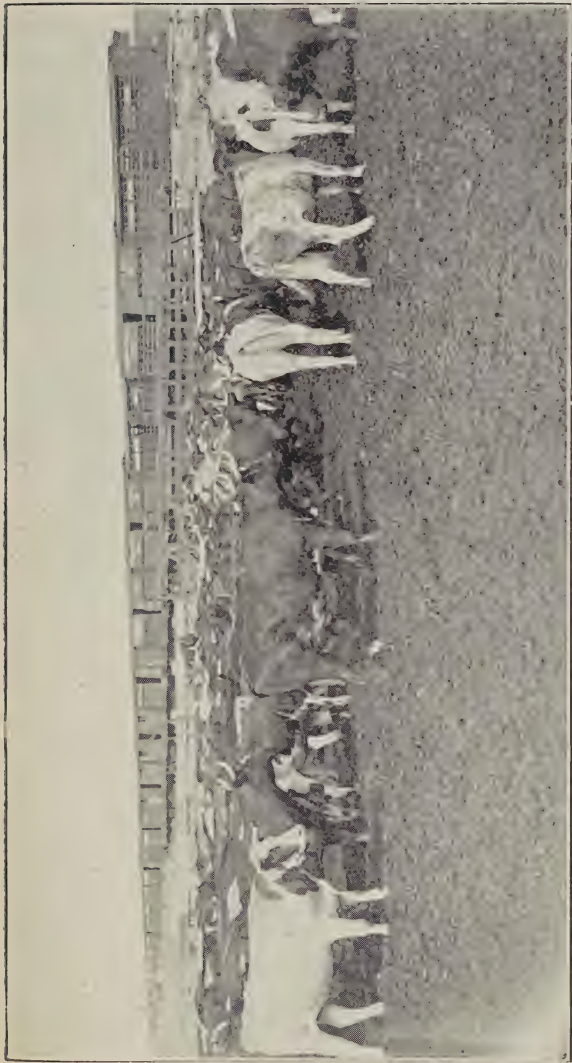
To form some idea of the immense agricultural resources of this country, some reference must be made to the area and productions of the respective provinces and territories of which it is composed.

Area of Canada before Confederation.

Prior to 1867 Canada included a region of about 1400 miles in length, and from 200 to 400 miles in breadth, extending west to the watershed beyond Lake Superior, and eastward to Labrador. Alongside of it were the independent British Provinces of Nova Scotia, New Brunswick and Prince Edward Island, and beyond it, to the north and west, were the vast regions given up to the use of the Hudson Bay Company.

Area after Confederation.

By the confederation of the provinces and the acquisition of the Hudson Bay Company's territory, the area of Canada has been immensely enlarged, and the Dominion now contains 3,619,819 square miles, exclusive of



LOADING CATTLE, AT DUNMORE, N.W.T.

its water area. It consists of seven provinces, four provisional territories, and a vast area to the north, mostly unexplored. The settled portions of the country are now bound together by railways, and a visitor may take a car at the eastern boundary at Halifax and travel comfortably without change of cars through to the shores of the Pacific, a distance of 3,662 miles.

Position of the Provinces and Territories.

The three most easterly or Maritime Provinces, Prince Edward Island, Nova Scotia, and New Brunswick, form a group surrounded and more or less intersected by the Atlantic Ocean and the Gulf of St. Lawrence. Following these to the westward come the large and important provinces of Quebec and Ontario, the former extending north-westward to beyond Lake Nipissing, the latter stretching its boundaries westward along the margins of the Great Lakes—Ontario, Erie, Huron and Superior—until its western limit is found beyond the Lake of the Woods. There, Ontario joins the prairie province of Manitoba, west of which lie the four large provisional territories, Assiniboia, Saskatchewan, Alberta and Athabasca. Still further west is British Columbia, enclosing a large area, where there is a combination of mountains, and valleys extending to the Pacific Ocean, abounding in minerals, coal and timber. Most of the valleys are very fertile, with favourable conditions for the growing of agricultural crops or the raising of fruit, and many of these valleys are being rapidly converted into smiling fields and prolific orchards.

North of British Columbia lies the Yukon district, noted for its wonderful deposits of gold, extending to Alaska; and eastward from this are the other great northern divisions of the country, known as Mackenzie, Keewatin, Franklin and Ungava, comprising in all about 1,500,000 square miles, exclusive of the water area. Of these vast regions, very little is yet known.

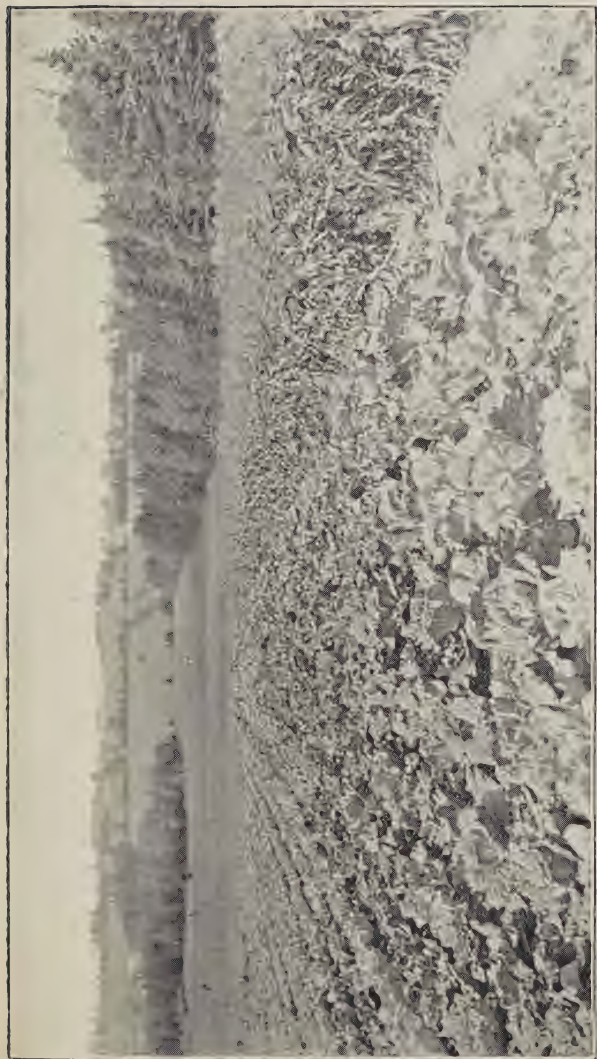
Beginning with the easterly limit of the Dominion, reference will first be made to the province of

PRINCE EDWARD ISLAND.

This is the smallest of the provinces of Canada. It has a land area of 2,184 square miles, of which more than 600 square miles are still in forest and woodland. The principal timber is spruce, and the white, black and red varieties are all represented here. The Island is separated from the adjacent provinces by the Straits of Northumberland. It is 150 miles long, and varies from 9 to 30 miles in width, and has a population of about 104,000. During the summer daily communication is maintained with the mainland by two lines of steamers, and during the winter, by a line of boats specially built for winter navigation. The climate is moist and cool in summer, while in winter the temperature never drops to a very low point. The total precipitation in rain and snow is from 35 to 40 inches annually.

Facilities for Farming and Dairying.

Agriculture is the paramount industry in this province, employing about 80% of the population. The soil is loamy and fertile, and most of it of a dull red color, having been produced mainly by the disintegration of a soft red sandstone. The chief crops produced on the Island are :—Hay, oats, potatoes and turnips, with smaller proportions of wheat, barley and buckwheat. Formerly large shipments were made every year from the Island, of hay, oats and potatoes, and by the shipping of these crude products the land was being gradually impoverished and its crop-producing power reduced. Of late years a better practice has prevailed. In 1892 a stimulus was given to the dairy industry by the establishment of two cheese factories under the management of an officer of the Dominion Department of Agriculture, and this co-operative industry has since grown so rapidly that dairy products are now among the largest items of export from the Island. The larger part of the revenue is from cheese; butter is also made on a large scale, especially during the winter months. Associated with the dairy



LANDSCAPE, NEAR CHARLOTTETOWN, P.E. ISLAND

industry, the raising and fattening of swine has become an important branch of farming here ; poultry and eggs are also produced and exported in considerable quantities.

Stock Raising.

Much attention has been given to the breeding of horses, for which the Island has an excellent reputation. Beef cattle are also raised in excess of the requirements of the home market and the surplus exported ; and sheep breeding has become a large and successful feature in farm work. Since the dairy and stock industries have grown so important, the hay, coarse grains and roots, formerly exported, have been, to a very large extent, consumed on the farms, and the increased quantity of manure thus obtained is rapidly bringing the land into better condition. The barnyard manure is supplemented by the use of " mussel mud," drawn from deposits found in comparatively still water along the sea shore. This mud consists chiefly of oyster and mussel shells, partly ground by the action of the water and mixed with decayed shell-fish and other animal remains.

Cultivation of Fruits.

Fruit growing is not yet an important industry, but is gaining in favour and may be extended with profit. Excellent apples are produced on the Island. Plums, also, and cherries, yield well, while all sorts of small fruits produce abundantly. Some shipments of apples have been made to Great Britain with good results, but other fruits have not yet been grown in sufficient quantities to supply more than the local demand. The sum total of heat during the summer season is not usually sufficient to ripen the better sorts of out-door grapes.

NOVA SCOTIA.

On the opposite side of the Northumberland Straits lies the Province of Nova Scotia, with a territory of 20,680 square miles, of which nearly one-third is covered with

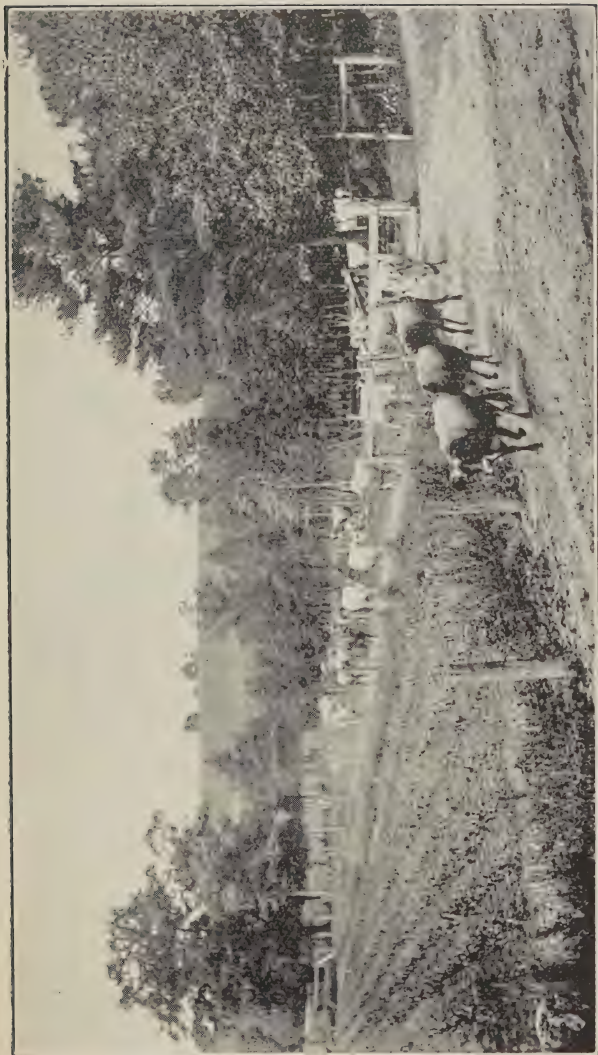
forest and woodland. The timber consists mainly of spruce, with smaller proportions of balsam, pine, tamarac, elm, maple, beech and birch. This province has a population of about 460,000, and consists of the peninsula proper and the adjoining island of Cape Breton, which is separated from the mainland by the Straits of Canso. Chains of lofty hills intersect different parts of Nova Scotia, and, in most instances, the lower levels between these ranges are very loamy and fertile. There are also large areas of dyked lands, which are very rich in plant food, and produce heavy crops of hay annually for many years in succession, without being broken up. Then, if ploughed and sown with oats, using at the same time a sufficient quantity of timothy and clover seed, another series of hay crops may be harvested. Although liable to considerable changes in temperature, the climate, considering its northern latitude, is temperate. The annual rainfall is from 40 to 45 inches, and averages more along the southern coast line than it does in the interior.

Agricultural and Stock Industries.

The principal agricultural crops are hay, oats, wheat, turnips and potatoes, with smaller proportions of barley, pease, buckwheat and rye. The trade in cattle, sheep and swine, is large, but could be considerably increased with great advantage to the farmers, who would thus consume on their farms a larger proportion of the hay, oats and roots they grow, and enrich their land with the manure produced. Increased attention has been given during the past few years to the dairy industry, and a number of cheese and butter factories have been established in different parts of the province.

Development of Fruit Growing.

Fruit growing has developed during the past ten or fifteen years to a remarkable degree. The Annapolis and Cornwallis valleys are especially adapted, by soil, climate and situation, for the growth of fruits of high quality,



JERSEY CATTLE COMING IN TO BE MILKED, ONT.

and the choicest sorts of apples, pears, plums and cherries are produced there in abundance. Most of the small fruits also succeed well. The excellent flavour and good keeping qualities of the apples grown in Nova Scotia have won for them a high reputation in the British market. The Gravenstein apple, a high flavoured sort, is grown in great perfection in the valleys referred to. There are many other localities in this Province where fruit growing is carried on successfully, and the exports of Nova Scotia fruits are large and are steadily increasing. During the past year more than 500,000 barrels of apples have been exported, most of which have been sent to the larger cities in Great Britain. Many new orchards have been recently planted, but there are still very large areas of land in these favoured valleys well adapted for orchard purposes which might be used in this way with great advantage and profit to the owners. The nearness to the sea-board, the milder climate, and the facilities for shipping to the mother country, make it practicable to send apples from here at almost any time during the winter, when this fruit commands the highest prices. Cranberries are also grown in large quantities in this Province, and find a ready market in the larger cities in Canada.

NEW BRUNSWICK.

This province, which adjoins the western boundary of Nova Scotia, has an area of 28,000 square miles, about one-half of which is in forest and woodland. The species of timber trees growing here are practically identical with those found in Nova Scotia. The population is about 331,000. In the past, lumbering has been the prominent industry, but agriculture is rapidly gaining in relative importance. Most of the surface of the country is undulating, but in the north-west sections there are many ranges of hills, some of which rise to a height of from 1,200 to 2,000 feet, and are clothed with timber to the summit. The climate is less temperate than that of Nova Scotia, and is more liable to low

temperatures during the winter. The average precipitation is about 44 inches. The opening of spring is usually later than in Western Ontario, and the summers, as a rule, are not so warm, extremes of heat being seldom experienced.

Progress of Agriculture.

Much of the cultivated land is rich and fertile, and, when well tilled, generally gives good crops of grain. There are considerable stretches of dyked land in this province, also, on which large crops of hay are grown. The agricultural returns show about one and a-half million acres under cultivation, about one-half million of which is in hay ; of the remainder, much the larger part is in oats ; buckwheat occupies the next place in importance, while smaller areas are devoted to potatoes, wheat and barley. The country is well adapted for mixed farming, the production of grain and stock ; the pastures are excellent and the root crops are large. Increased attention has been given of late to dairying, and many cheese and butter factories are now in successful operation.

The Fruit Industry.

The climate of New Brunswick is less favourable for fruit growing, nevertheless this branch of industry is steadily increasing. There are some successful orchards in the valley of the St. John River, and in other sheltered spots in different parts of the province. The varieties of fruit grown are chiefly of the hardier sorts. The apples of New Brunswick have the reputation of keeping well, and there is no doubt that apple-growing might be considerably extended with profit. Small fruits are grown in abundance, and the cool weather in the early part of the summer delays the ripening of early fruits and permits of the growing of large quantities of excellent strawberries, which ripen after the main supplies have been consumed, when this fruit finds a ready market at good prices in the larger cities of Eastern Canada and the New England States.



HERD OF GALLOWAY CATTLE, AT STAIR, N.W.T.



QUEBEC.

The Province of Quebec includes a land area of 341,756 square miles, of which more than half is forest and woodland. The population, according to the census of 1901, is 1,648,898, a large proportion of which are engaged in agricultural pursuits. The field crops in this province occupy 4,704,396 acres, and hay 2,548,450 acres. The surface of the country is very varied. In some parts there are ridges of mountains and lofty hills, diversified with fertile valleys, rivers and lakes. The climate varies much in different parts of the province. The summer is warm and pleasant and vegetation develops rapidly; the winters are cold, but the atmosphere is clear and bracing, and between December and March there is usually a good depth of snow, which gives excellent sleighing. Much of the country is well adapted for farming, the soil being loamy and fertile.

Principal Agricultural Crops.

Hay is one of the principal crops grown, and this has been largely exported, but with the rapid extension of the dairy industry, which has of late years made wonderful strides in Quebec, much of the hay and most of the coarse grains are now more profitably fed at home. In this way, the elements of fertility taken from the land by these crops are restored to the soil in the manure applied, and the crop-producing power of the land is fairly well maintained. The principal cereal crops are oats and wheat. Pease and buckwheat are also grown, with smaller proportions of barley, rye and maize. Potatoes, turnips, mangels and sugar beets are cultivated successfully in nearly all the settled parts of this province.

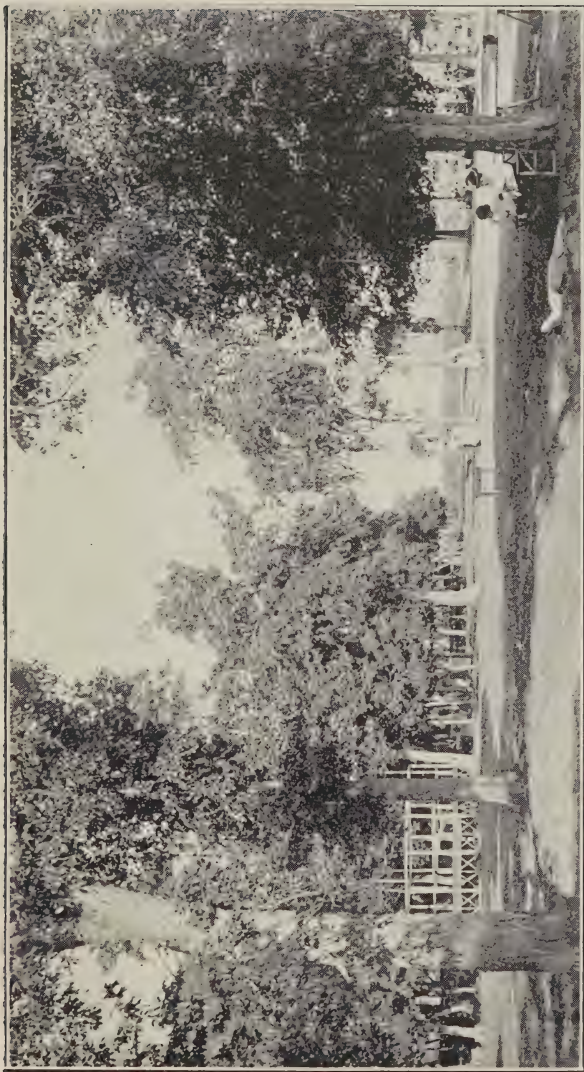
Stock, Etc.

The pasturage is excellent, and cattle, sheep, swine and poultry are kept in increasing numbers. Horse breeding is also carried on to a considerable extent in some districts. Tobacco is an important crop in some

parts of Quebec and occupies 8,661 acres, the product of which is, 7,656,000 lbs. A large proportion of the tobacco grown in Canada is produced in this province. Flax is also cultivated to a considerable extent for its fibre as well as for its seed.

Progress in Fruit Growing.

Fruits are grown freely in some of the more favoured localities, and there are good orchards in the valley of the St. Lawrence. Nowhere else does the celebrated Fameuse apple reach so high a degree of perfection as on the Island of Montreal and the districts adjacent. Here, also, many varieties of pears and plums of fine flavour are grown. In the Eastern Townships (on the south side of the River St. Lawrence), which are noted for the excellence of their dairy products, fruit growing is carried on to a considerable extent, and quantities of apples are produced there. The apples of Quebec, as a whole, are highly colored and have a good flavour, but the winter in many parts of the province is too severe to admit of growing any but the hardier sorts. On the interior lands on the north side of the river, the climate is less favourable and the orchards are few and small.



ELM PARK, WINNIPEG

ONTARIO.

This province has a land area of 220,508 square miles, nearly 100,000 of which is still in forest and woodland. The woods contain a large number of varieties of trees, among the most important of which, commercially, are the white and red pines, elm, ash, oak, birch, hickory, walnut and butternut. The population is about 2,182,947. Ontario has a wonderfully varied climate, the extremes both of summer heat and winter cold being tempered by the presence of large bodies of water. In the southwestern part the climate is mild ; in those portions which lie within the influence of the Great Lakes, the winters are not severe and the summers are seldom oppressively hot. In the Ottawa and Upper St. Lawrence valleys the winters are moderately cold, but very exhilarating. In the northern portions of the province, the winters are longer and colder. The annual precipitation varies in different parts from 30 to 40 inches. A large proportion of the land is good, and while the soils in the different sections vary much in character, some consisting largely of clay, or clay and sandy loam mixed, others are more sandy, but nearly all are fertile and productive. In the northern parts of the province there are large sections of rocky land, much of which is reserved by the government for forest purposes. There are, however, considerable areas open for settlement in the districts of Muskoka, Parry Sound, Haliburton, Nipissing, on Lake Temiscaming, in the valley of the Rainy River, and in the great clay belt known as New or Northern Ontario, where the land is very suitable for agricultural purposes. Ontario has 13,266,335 acres of improved land, of which nearly 12,000,000 are in field crops and hay.

Principal Agricultural Crops.

The following are the principal field crops, with the areas occupied in 1903 and the total crops produced of each, as given in bulletin 84 of the Ontario Bureau of Industries :

FIELD CROPS.	Total No. of Acres.	Total Yield.	Yield per Acre.
		Tons.	Tons.
Hay and Clover	2,783,565	4,336,562	1.56
		Bushels.	Bush.
Oats	2,645,965	110,228,103	41.7
Winter Wheat	665,028	17,242,763	25.9
Spring Wheat	248,518	4,650,707	18.7
Barley	709,839	24,378,817	34.3
Pease	407,133	8,924,650	21.9
Rye	179,227	2,970,768	16.6
Buckwheat	95,487	2,049,169	21.5
Beans	53,039	978,246	18.4
Potatoes	139,011	16,676,447	120.
Turnips	134,469	69,316,341	515.
Mangels	80,918	41,768,239	516.
Carrots	7,805	2,612,778	335.
Corn, for husking in ear	378,924	29,287,888	77.3
Corn, cut green for silo and fodder	209,727	Tons. 2,564,400	Tons. 12.23

The yield per acre of winter wheat in 1903 was good. The average for the past 22 years has been 20 bushels 30 lbs. per acre.

The total area under the crops enumerated above was 8,738,655 acres, while the acreage devoted to hay and pasture was 3,057,576.

In addition to this, the land occupied by red clover, grown for seed, was 188,640 acres; by alsike, 71,804 acres. Rape occupied 51,217 acres; flax, 6,072 acres; tobacco, 2,961 acres, and hops, 2,514 acres.

Extent of Stock Industry.

The stock industry is a large one, as shown by the following figures: The total number of cattle in farmers' hands in this province on 1st July, 1903, was 2,674,261, of which more than one million (1,050,108) were milch cows. Of sheep there were 1,642,726; swine, 1,977,386; poultry, including fowls, turkeys, geese and ducks, 9,683,573. A large trade is also done in horses; the total number of these animals held in the province at the date above named was 639,581, among which there were breeding mares to the number of 98,485.

CUTTING WHEAT, NEAR BRANDON, MAN.



Progress in Dairying.

The dairy industry in Ontario is a very flourishing one, and has of late years become one of the most important and profitable branches of agriculture. The number of milch cows is increasing, and greater care is taken in improving dairy herds and in eliminating animals which are unprofitable. The money value of the cheese and butter products to Ontario amounts to fifteen million dollars annually.

Wonderful Facilities for Fruit Growing.

Fruit is grown to a very large extent in this province, and the possibilities for fruit growing in Ontario are practically unlimited. The area of land occupied by orchards and gardens is 365,851 acres, and there are 15,269 acres in vineyards. The apple trees of a bearing age number 7,551,639, in addition to which there are of young trees 1,989,983. The season of 1903 was a fairly good one for this fruit, the crop being placed at 43,659,413 bushels, an average of 6.15 bushels per tree. Apples are grown successfully over a very large part of the province. Beginning with the valley of the St. Lawrence, about Brockville, a good apple country is found, which extends to Niagara, a distance of 288 miles. In nearly all the Western and Central counties bounded by Lakes Ontario, Erie and Huron, there are many fine apple-growing sections, and the further north the varieties are grown the flavour and the long-keeping quality of the fruit is more highly developed.

In the Niagara peninsula from Hamilton to Niagara, also along the shores of the western part of Lake Erie, peaches are grown very successfully, and in those sections there are of bearing peach trees 811,725, and of young peach trees not yet bearing 470,772. Grapes are also grown very generally throughout the province, but most of the larger commercial vineyards are located in or near the peach growing districts referred to. There are in all 2,620,036 grape vines in the province, which produced, according to the census of 1901, 23,156,478 pounds of

grapes. A portion of this crop is used in the manufacture of native wine, which is a growing industry. There are also large orchards of pears, plums and cherries in different parts of Western Ontario. Small fruits are grown in great abundance in nearly every part of the province. Canadian markets are well supplied with home grown fruits, and there is a large surplus of long keeping sorts, which is sent chiefly to Great Britain. The evaporating of apples, by which they may be preserved indefinitely, is carried on extensively in some localities, and fruits so prepared can be sent to distant markets where it would be impracticable to send the fruit in a fresh condition. About eight million pounds of evaporated apples was exported in 1903. Considerable quantities of apples and other fruits are also canned, and in this form Ontario fruits find their way to many distant markets. Tomatoes are grown extensively, and a large part of the crop is canned and sent to other countries.

MANITOBA.

The Province of Manitoba adjoins the western boundary of Ontario. It has a territory of 64,327 square miles of land surface and a population of about 275,000. This province is situated midway between the Atlantic and Pacific coasts. The surface is somewhat level, with stretches of prairie covering large districts, intersected here and there by valleys of considerable width in which run small rivers and streams, the banks of the valleys being usually fringed more or less with trees. In many other districts trees are also found in clumps, and belts of varying width, and along the ranges of hills which run across this province chiefly from the south-east to the north-west there are forests of considerable magnitude. The proportion of forest and woodland to the total area is estimated at nearly forty per cent.

Climate.

The climate of Manitoba is warm in the summer and very cold during parts of the winter, with a clear sky and bracing dry air, which is very invigorating. Winter



CORN IN SHOOKS RIPENING, CHATHAM, ONT.

usually sets in during the latter part of November and is nearly over by the end of March, although occasional frosts occur at night for several weeks later. Seeding usually begins about the middle of April and harvesting about the third or fourth week in August. The annual precipitation for Manitoba is about $17\frac{1}{2}$ inches, nearly 13 inches of which falls between 1st April and 1st October. The area of land estimated as available for farming purposes is about 27 million acres, whereas the acreage under crop is less than four million.

Soil.

The greater part of the soil in Manitoba is a deep, rich vegetable mould of great fertility, with an abundant supply of humus. The proportions of the more important elements of plant food which exist in this soil, judging from a number of chemical analysis which have been made, are about double those found in good ordinary soil in Europe.

Chief Agricultural Products.

The principal grain crop in Manitoba is wheat, which is produced of excellent quality. The No. 1 hard wheat grown in this province and in the Northwest Territories brings the highest price and is not excelled by any other wheat in the world. The number of acres of wheat sown in Manitoba in 1903 was 2,442,873, and the total yield was 40,116,878 bushels, an average of 16.42 per acre. Oats stand next in importance, with an area of 855,431 acres and an average crop of 38.62 bushels per acre, followed by barley, with an acreage of 326,537, and an average crop of 26.66 bushels per acre. The total grain crop of this province in 1903 was 82,576,519 bushels. The total yield of potatoes last year was 4,757,000 bushels; there was also a considerable acreage devoted to flax, rye, pease and roots.

Stock Raising and Dairying.

The stock industry is rapidly increasing in importance; a large number of beef cattle are produced for export. Dairying has made good progress, and the

quantities of cheese and butter produced are yearly increasing; the value of the output of these products for 1903 was \$858,709. The number of swine raised is also much greater than formerly, and mixed husbandry is becoming more general. Poultry raising is also receiving increased attention.

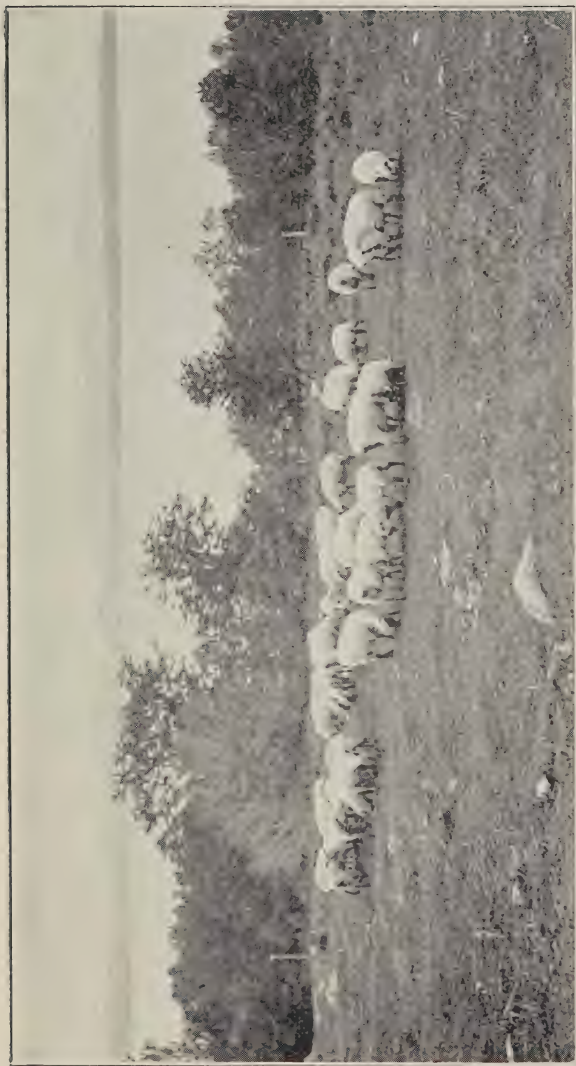
Vegetables.

Potatoes are grown to great advantage in this province, are of large size, and produced in abundance. The climate is also well adapted to the production of all sorts of vegetables of unrivalled quality. Asparagus, pease, beans, cabbage, cauliflower, rhubarb, and many other vegetables are grown in perfection. The season is rather short for Indian corn, but some of the earliest varieties can usually be brought to a sufficient degree of maturity for the table. Tomatoes, as a rule, cannot be well ripened without some protection, during the ripening period, with glass frames.

The climatic conditions are unfavourable to the growth of the larger fruits, but many of the smaller fruits are produced in abundance.

THE NORTHWEST TERRITORIES.

Westward from Manitoba lie the provisional territories of the Canadian Northwest: Assiniboia, with an area, exclusive of water, of 88,279 square miles; Saskatchewan, 103,846; Alberta, 101,521, and Athabasca, with 243,160 square miles. These great divisions extend from the western boundary of Manitoba to the Rocky Mountains. They have a scattered population of about 250,000 or more and are traversed by railways, which have opened up the country for settlement. In the three provisional Territories, Assiniboia, Saskatchewan and Alberta, there are about 170 million acres of land suitable for farming purposes. Up to the present time about 11 or 12 million acres have been taken up by farmers, and two million are occupied by ranchers. No estimate can yet be formed of the area of land fit for settlement in Athabasca.



SHEEP AT PASTURE, NEAR KNOWLTON, P.Q.

Characteristics of the Country.

Broad and rolling plains characterize the Territories along their southern boundaries, and a wide belt lying north of the 49th parallel (which forms the boundary line between the United States and Canada) extending from about the 102nd parallel of west longitude to the base of the Rocky Mountains, has a dry climate, caused partly by the hot winds which blow northward from the great American desert. Beyond the spent force of these warm currents of air, beginning from 125 to 175 miles north of the international boundary, immense partly wooded districts are found, watered by streams of various sizes, where the soil is wonderfully rich and fertile, with conditions very favourable for mixed farming, and especially for the raising of cattle and for dairying. This great fertile belt extends from the western shores of Lake Manitoba westward for about 700 miles to the foot hills of the Rocky Mountains, and varies in width (from south to north) from 150 to 250 miles. There the native grasses grow far more luxuriantly than on the open prairies southward, while the belts and clumps of wood, interspersed with stretches of open country, afford favourable conditions for the growing of grain, and give good shelter for stock. Over this whole area the soil is fairly uniform in its fertility, and it is doubtful if another similar stretch of country, equal in productiveness, can be found anywhere. Settlement is rapidly progressing in many different parts of this desirable region. The climate in the Territories, north of the dry belt, is much like that of Manitoba, and is well suited for growing the finest quality of No. 1 hard wheat, with other cereals of high character. The length of the growing season is also much the same, and the spring opens about the same time from the Red River to the Athabasca.

Stock Ranches.

Considerable portions of the drier district are occupied by ranches where large numbers of beef cattle and horses are raised, and there the animals winter in the

open. The soil is very fertile, and in some localities where irrigation is practicable, agricultural settlements of considerable size are being formed.

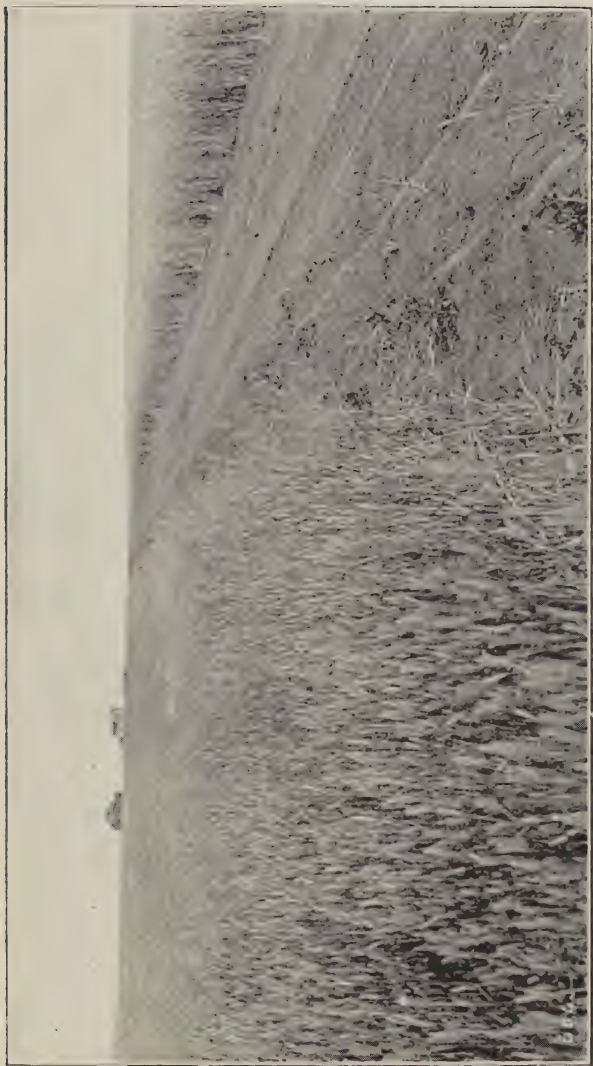
BRITISH COLUMBIA.

The most westerly province, British Columbia, includes 370,191 square miles of land area and has a population of about 180,000. It is a very mountainous country, with grand and romantic scenery, and great variations in climate.

Climatic Conditions and Varied Products.

West of the coast range of mountains the climate is mild and genial, much like that of many parts of England, where the holly, laurel, rhododendron and the yew, flourish with the apple, pear, plum and cherry and in some districts the peach. In those parts of the province between the coast range and the Rockies there are many fine valleys more or less utilized for farming and ranching. In some of these the rainfall is not sufficient to admit of the successful cultivation of crops without irrigation. There are, however, many mountain streams available for this purpose, and on some of the ranches very fine crops of grain are grown and excellent fruits, especially apples, plums and sometimes pears.

While the climate of the coast district, especially near the seaboard, is much like that of the north of England, it gradually changes as one proceeds eastward from the coast, the summer becoming warmer and the winter somewhat colder as the distance from the ocean increases. The annual precipitation at Agassiz, which is about 70 miles east of Vancouver, is about 67 inches. In the valley of the Fraser River and on the delta near the mouth of the river, there are considerable areas of land suitable for agricultural purposes where quite a large proportion of the population is engaged in farming.* The principal crops grown are hay, oats, roots and potatoes, with smaller areas of barley and wheat. Hops are grown very successfully; so also is flax, of which the fibre in



SETTLER'S HOME, NEAR INDIAN HEAD, N.W.T.

this climate is of an excellent quality. Cattle, sheep and swine are kept in limited numbers; some fairly good dairy herds have been brought together in different sections, and several butter factories are being successfully conducted.

Great Fruit Producing Capabilities.

The climatic conditions of the coast district are remarkably well adapted for the production of fruit. Apples, pears, plums and cherries grow well and bear profusely, and as these fruits can be grown to greater advantage on the higher "bench" lands, and on small pieces of cultivable ground on the sides of the mountains than they can on the more level valley lands the total area available for fruit growing in this province is practically unlimited. Plums produce immense crops with very little effort, and raspberries, blackberries, currants, gooseberries and strawberries are all grown with very satisfactory results. The summers are so temperate that there is not usually a sufficient sum total of heat to ripen the better sorts of outdoor grapes, nor to ripen tomatoes thoroughly, but in the drier interior country the summers are warmer, and there tomatoes and many varieties of grapes ripen well, and where supplies of water for irrigation are obtainable nearly all the fruits grown on the coast do well, and in some few locations peaches are grown with success.

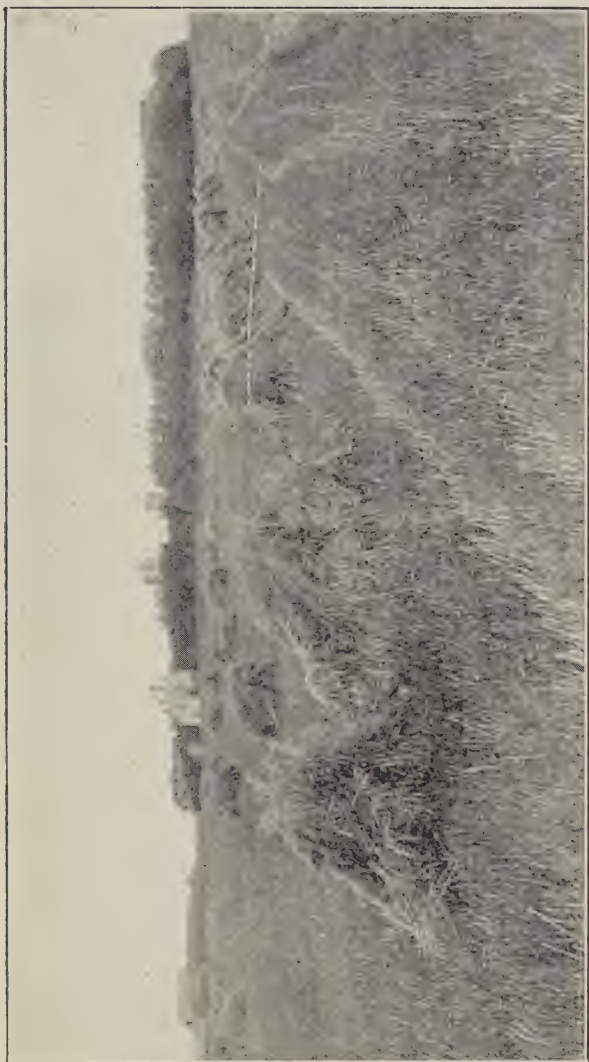
GENERAL REMARKS.

The progress made in Agriculture in Canada is manifest in many directions. From 1891 to 1901 (the date of the last census) the increase in land under crop was about four million acres. The increase in the number of farmers cultivating 50 acres and upwards in the same period was 31,300. Large additions have been made to the land in cultivation since that time. With the increase in the area under crop is associated a more intelligent system of farming than formerly, greater efforts are made to

maintain the fertility of the land, and to cultivate it so as to bring it into a good condition of tilth for crops. More care is taken in the selection of seed, also in choosing those varieties for sowing which experience has shown to be most productive. Formerly Canada was a large exporter of coarse grains, now much the larger part of these crops is fed to animals on the farm ; more than nine-tenths of the entire crop of coarse grains grown in this country is now used in that way.

Value of Agricultural Exports.

The value of the total exports of agricultural products, including all sorts of grains, seeds and fruits, was, in 1903, over 44 million dollars, of which wheat and flour formed the largest item, nearly $29\frac{1}{4}$ millions. Ten years previous, in 1893, these exports were less than 22 millions. Notwithstanding that there has been a large increase in the area of land under cultivation, the exports of coarse grains and fodders have been relatively much reduced. This, however, has been more than compensated for by large increases in the exports of animals and their products. These, in 1903, amounted in value to \$67,500,000 ; in 1893 their value was \$30,300,000. The increase in the exports of dairy products has been surprising. In 1893, cheese was exported to the value of $13\frac{1}{2}$ millions ; ten years later, in 1903, this had increased to $24\frac{3}{4}$ millions, and in the same time the exports of butter increased from \$1,297,000 in 1893, to \$6,955,000 in 1903. This extension of dairy work has produced a rapid development of the swine industry. Pork factories have been established in many parts of the Dominion, and much attention is now paid by farmers to the breeding of those classes of pigs best suited for the production of the highest quality of bacon. The exports of bacon and hams have risen from a value of \$1,971,000 in 1893, to \$16,000,000 in 1903. By exporting animals and their products in place of coarse grains, the elements of fertility taken from the soil by these crops are to a large extent returned in the manure of the animals, and thus the fertility of the land is kept up.



SETTLER'S HOME, NEAR MORDEN, MANITOBA

Aids to Agriculture in Canada.

In Canada, Agriculture is promoted by special measures devised both by the Provincial and the Dominion Governments. In Ontario, Quebec and Nova Scotia there are special Agricultural Schools or Colleges for the practical education of young men in farming ; there are also Dairy Schools in most of the provinces, where practical instruction is given in dairy work. Among other provincial agencies for imparting information there are Farmers' Institutes, Travelling Dairies, Live Stock Associations, Fruit Growers' Associations, and Agricultural and Horticultural Societies. These are all maintained or assisted by the several provinces, and parts of the proceedings and many of the practical papers presented at the more important meetings of these associations are published by the Provincial Governments, and distributed free of charge to farmers who desire to have them. There are also Annual Agricultural Exhibitions of a highly important character, held in the larger cities in the autumn, where improvements in connection with agricultural and horticultural products, live stock, implements, etc., are shown in competition. These are visited by thousands of farmers, and thus much practical information is widely disseminated. The principles of Agriculture are also taught to some extent in the Common Schools in most of the provinces.

Cold Storage Facilities.

The Dominion Government has assisted in the export of dairy products and fruit, by the establishment of cold storage facilities by which such products can be carried in the best condition from the places of production to the markets of Great Britain.

Dominion Experimental Farms.

The progress of Agriculture in Canada has also been greatly stimulated by the organization and maintenance of Experimental Farms by the Dominion Government.

Five of these farms were established in 1887, in different parts of the Dominion, and were so located as to render efficient help to the farmers in the more thickly settled districts, and at the same time to cover the most varied climatic and other conditions which influence agriculture in this country. The Central Experimental Farm is situated at Ottawa near the boundary line between Quebec and Ontario, where it serves as an aid to agriculture in these two important provinces. One of the four branch farms has been placed at Nappan, Nova Scotia, near the boundary between that province and New Brunswick, where it serves the farmers of the three Maritime Provinces. A second branch Experimental Farm has been established at Brandon in Manitoba; a third at Indian Head, in Eastern Assiniboia, one of the Northwest Territories; and the fourth at Agassiz, in the coast climate of British Columbia.

Experiments Conducted.

At all these farms experiments are conducted to gain information as to the best methods of preparing the land for crop, and of maintaining its fertility, the most useful and profitable crops to grow, and how the various crops grown can be disposed of to the greatest advantage. To this end experiments are conducted in the feeding of cattle, sheep and swine for flesh, the feeding of cows for the production of milk, and of poultry both for flesh and eggs. Experiments are also conducted to test the merits of new or untried varieties of cereals and other field crops, of grasses, forage plants, fruits, vegetables, plants and trees; and samples, particularly of the most promising cereals, are distributed freely among farmers for trial, so that those which promise to be most profitable may be rapidly brought into general cultivation. Experiments are also conducted in the cross-breeding of cereals and fruits, with the object of producing new varieties specially adapted to the climatic conditions existing in different parts of Canada.



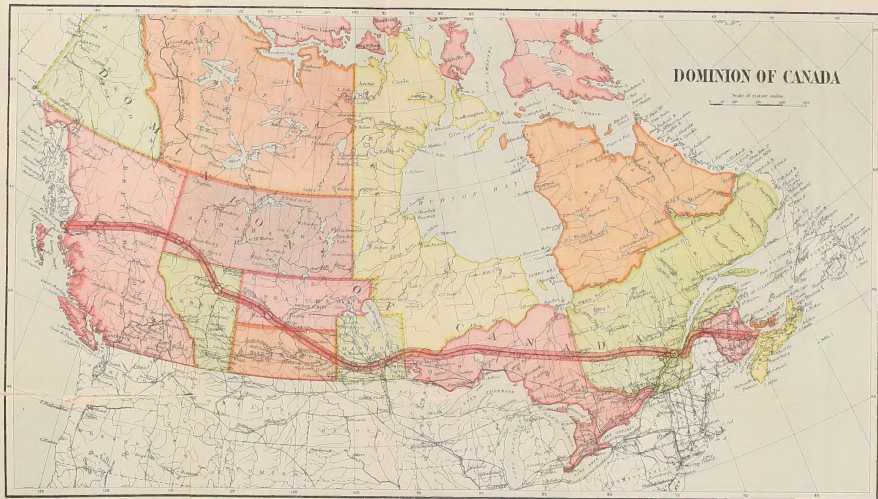
HERD OF CLYDESDALE MARES, AT STAIR, N.W.T.

Reports, Correspondence, &c.

Annual Reports and occasional bulletins are published and widely distributed, giving the results of this work. Farmers are invited to visit these Experimental Farms, and a large correspondence is conducted with those interested in Agriculture in all parts of the Dominion, who are encouraged to ask advice and information from the officers of the farms.

The Future of Canada.

While the progress of agriculture in Canada has been great in the past, it will in all probability be much greater in the future. The quantity of land under cultivation in this country, although large in comparison with the number of the inhabitants, is very small when compared with the vast area of rich and fertile country still unoccupied, and Canada will before long undoubtedly become one of the chief food-producing countries of the world. The examples of her magnificent cereal products displayed in the St. Louis Exposition and the varied collection of fruits shown in the Building devoted to horticulture, afford convincing testimony as to the fertility of the soil and the favourable conditions of her climate. The Dominion of Canada throughout the larger part of its vast area is characterized by greater heat in summer and a lower temperature in winter than in corresponding European latitudes, but the severity of the winter, judged by the thermometer alone, is apt to lead to an exaggerated impression of Canadian experiences. Owing to the dry and bracing atmosphere and clear sunny skies which generally prevail during the winter season, the sense of discomfort produced by low temperatures is much less than that which is felt in milder weather where cold winds and damp fogs occur. Much of the healthful, invigorating winter weather in Canada is thoroughly enjoyable.



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